

### **ABSTRACT**

A method for isolating polynucleotides, such as DNA, RNA and hybrids thereof from an aqueous solution containing polynucleotides by reversibly binding the polynucleotides to silica-coated magnetic particles in the presence of a salt and non-ionic hydratable additive is disclosed. The salt and non-ionic hydratable additive concentrations are adjusted to levels that result in adhesion of the nucleic acid to the particles without degradation or precipitation of the nucleic acid.